CONFIRMED MINUTES
IHRA SIDE IMPACTWORKING GROUP
11TH MEETING
GENEVA 5/6 MARCH 2001

Attendance List:

Chair:	Keith Seyer	Australian Dept of Transport and Regional Services
	Richard Lowne	EEVC
	Hideki Yonezawa	Traffic Safety and Nuisance Research Institute, MLIT
	Minoru Sakurai	Japan Automobile Research Institute (JARI)
	Takeshi Harigae	Japan Automobile Research Institute (JARI)
	Brian Jonah	Transport Canada
	Suzanne Tylko	Transport Canada
	Takahiko Uchimura	OICA/Asia Pacific
	Stuart Southgate	OICA/US/AAM
	Joseph Kanianthra	NHTSA/USA DOT
	John Hinch	NHTSA/USA DOT
Secretary:	Allan Jonas	Australian Dept of Transport and Regional Services

Apologies:

Mike Leigh	OICA North America
Michiel van Ratingen	EEVC
Dainius Dalmotas	Transport Canada

1. Introduction

Mr Seyer opened the meeting and thanked Mr Kanianthra for organising the venue.

2. Agenda

Mr Kanianthra mentioned that the US analysis of struck vehicle velocity on injury outcomes (agenda item 7.1), was not yet available due to other pressing matters. He undertook to provide it for the next meeting.

There were no other additions/deletions to the agenda.

Mr Seyer suggested a brain storming session to address Item **8 Other business**. All present agreed.

3. Confirmation of the Minutes of Previous Meting

There were a number of changes suggested by members. These can be found at Attachment A.

Mr Hinch agreed to take the amended version and hand it over to Donna, given that Mr Seyer would not be back in Australia until 16 March.

4. Report From IHRA Steering Committee

Mr Ray Owings was to report to WP29. The steering committee was to meet on Thursday afternoon to discuss the future of IHRA and consider the need for new working groups.

Mr Kanianthra said the working groups may be invited to brief the GRs after ESV, in December 2001 at the earliest. Mr Hinch suggested that this might be a good opportunity to discuss the group's standing in relation to IHRA priorities. Mr Seyer mentioned that the brain storming session planned for section 8 might produce some ideas to carry forward. Mr Lowne reminded members that the final decision on the future of IHRA was to be decided at ESV on 3 June 2001.

5. Report from WorldSID Task Group

Mr Uchimura informed members that the task group meeting could not be held until after the workshop in Melbourne and had been reschedule for 19 and 20 April 2001 to be held in Okinawa, with the tri-chair meeting scheduled for 17 and 18 April 2001. Following the Okinawa meeting, the task group meeting was scheduled to meet next in Munich on 20 and 21 September 2001.

There will be another tri-chair meeting on 11 November 2001 in San Antonio and a Task Group meeting the following day, before STAPP.

In respect of the Australian meeting, each region promised to provide 6 dummies and it was hoped that this matter could be discussed at Okinawa.

Mr Kanianthra thought the schedule for providing dummies had slipped. Mr Uchimura was not able to provide an update on the new schedule.

Mr Kanianthra wondered what was learned from the tests in Australia. Mr Uchimura advised that the data was on the website and that Mr Craig Newland was in the process of putting it on video tape. Mr Seyer reminded members that each region was supposed to review the test data. Mr Uchimura was not aware of any results of reviews.

Ms Tylko advised that

- head and shoulder drops had been completed.
- film footage would be distributed to members.
- there were no problems with setting up
- no rotations – dropping nice and straight
- the clay pelvis insert kept dropping out
- no problems with communications (data transfer)
- earlier concerns about body drops were unfounded
- no sled tests had been carried out
- high speed photography had been carried out with videos in three places
- drop test from 1 m – when to move the height to????

Ms Tylko also advised that Transport Canada's schedule had slipped by about one month and needed to be finished before ESV. The dummies go to Europe next.

Mr Seyer asked whether Transport Canada had made any real time video of dummy handling. Ms Tylko advised that this had not been done. She suggested that a professional should be engaged to make the video after the process had been ironed out. She expected that most of the issues would be ironed out before going on to Europe.

6. Report of the IHRA Biomechanics Working Group

Mr Seyer asked whether there had been a Biomechanics Working Group meeting in 2001. Ms Tylko said there had been no meeting. Mr Lowne was aware that a Biomechanics report (4 to 5 pages) to the Steering Committee and ESV, but was not aware that a draft was available to the working group.

Mr Uchimura mentioned that the Biomechanics WG had not provided required information to World SID and the Task Group and they have had to resort to ISO TR9790 otherwise their work would come to a grinding halt. Ms Tylko was of the opinion that there was a problem with communications within the Biomechanics group.

7. Test Results and Test Matrices

7.1 US Analysis of Struck Vehicle Velocity on Injury Outcome (NHTSA)

As mentioned at the start of the meeting, NHTSA was not in a position to provide this information.

7.2 Behaviour of aluminium honeycomb under combined axial and shear loads (Australia)

Mr Seyer gave a presentation, which will be sent out with these minutes.

7.3 Tests using IIHS barrier

Ms Tylko presented a slide show on Transport Canada's test program. Mr Lowne requested that a copy be attached to the minutes, after correction. (Document not yet available).

8. Other Business

As agreed, members took the opportunity to discuss future plans for the Side Impact Working Group.

The following new/ continued topics were identified for further discussions

- MDB
- Pole

- OOP side airbag
- Interior head contact
  EEVC is not considering the whole of FMVSS 201 because 201 encompasses everything (side, front, rollovers)
  Define side impact head contact from accident data

EEVC has discussed problems with defining contact points. FMVSS 201 has a comprehensive prescription of structural elements including the A, B and C pillars, header rails and sun roofs; it assumes that the "A" pillar is a known entity. Since the "A" pillar is not often struck by restrained occupants, it has been proposed that the "A" pillar be excluded. This was not regarded as a good approach as the "A" pillar is too close to the head. It was suggested that rather than nominate structural members, a better approach would be to identify planes to delineate zones. This would be a better proposition to get around the diverse geometric layouts of different vehicles.

Mr Kanianthra mentioned the US manufacturers were seeking certainty in test requirements because of self-certification. Mr Southgate confirmed that from OICA's standpoint, there was some anxiety that standards could be used in different ways by different test houses. Industry would feel better if FMVSS 201 requirements were adopted in ECE R 21.

The discussion then turned to the issue of Pole tests. OICA agreed to ask manufacturers in the regions if they had done any parametric studies on pole size (Φ) and injuries in side impacts and provide same by the next meeting. Mr Kanianthra reminded members that the FMVSS 214 included a door beam requirement but this was not a feature in Europe.

Messrs Lowne and Southgate pointed out that nevertheless most cars had door beams.

The group agreed to focus on the following issues, which had been identified in the ESV paper.

MDB TESTS

1. Rear dummy
2. Perpendicular or crabbed
3. Homogeneous or not
4. DB stiffness
5. Trolley mass
6. Ground clearance etc
7. Driver seat position
8. Alignment of trolley (linked to #1 and 2)

Members were the asked their attitudes to each issue.

1. Rear dummy:

US yes 3 & 6 year old (subject to latest crash data analysis)
Protect children in rear

EEVC recommended front & rear struck side. Currently it is not possible to get the 50th %ile dummy to fit in the rear seats of some European small cars

Japan yes, even though the number of casualties is not so high (size yet to be decided)

Canada yes

Australia "politically yes". "Adult" in MDB test. "Children" looked after by Australian Standard for child restraints

OICA's Europe not necessary from research standpoint but will consider in the interest of harmonization
Japan insufficient data
US SIDIIs

1.1 Possible sources of data

In-depth crash investigation, U of Pennsylvania NHTSA will report at next meeting
Australia [Monash University]
EEVC to check on available data
OICA " " "
Japan to check age and gender of the rear seat in National data

1.2 Dummy Size

Canada – SIDIIs or same as US
US – 3 – 6
EEVC – one dummy only – small (5%) female
Japan – Not decided
OICA – (Japan) no technical information available
(North America) SS – SIDIIs

Mr Seyer suggested that children could be looked after in the child restraint rule and the small female in the dynamic rule. Ms Tylko suggested that if the dynamic test takes care of the small female, child protection could follow automatically.
There was some discussion on how to obtain better data. Mr Lowne queried whether more research was needed into rear seat occupancy and accident rates to reveal rear seat risk.

Mr Kanianthra offered to provide some data from the US, for presentation at the next meeting. Mr Seyer offered to ask Monash University to look into the crashed vehicle file. Japan has a system for collecting large study data but the size of the data may not satisfy requirements.

Mr Lowne said he would check if the EEVC had access to any data; OICA to check with manufacturers and Japan to check police data.

2. Perpendicular or crabbed

US crabbed for now but will consider perpendicular if there is a test that can maximize both front and rear occupant loadings

Canada perpendicular because it maximises front seat loadings

EEVC perpendicular because it maximises front seat loadings but also looking at ways to exercise rear seat dummy all in one test

Japan perpendicular " " " "

OICA US either, limit number of tests will consider IIHS proposal
Japan either in the interest of harmonization

Australia same as EEVC/Canada maximize front occupant loadings, if a rear dummy is to be used then there needs to be a test that loads the rear

2.1 Research

Some of these tests will look at Issues 2 to 6 either together or in some combination.

IIHS MDB NHTSA (3)
IIHS
TC (6) +2
EEVC no plans
Australia (2?)

EEVC barrier face design, wider, profiled

Japan SUV to passenger car

Canada wider higher EEVC done

3. Mass

US maybe between 1376 and 2000 kg

Canada 1500 kg

EEVC no greater than 1500 kg in the interest of harmonization

Japan current average passenger car is 1150 kg overall 1250-1300 kg

Australia 1500 kg

4. Mass Research

EEVC	proposal to do some trolley tests, mass has little effect if there is interaction with the sill. When there is no interaction with the sill mass becomes more important
NHTSA	may look at other combinations of parameters by modelling Crash data

5. Ground Clearance/Geometry

US	SUV problem, high ground clearance, little or no sill interaction, looking at blocker beam, linked with compatibility, load cell wall test to require structural interaction at this level
EEVC	Focus on passenger cars 350mm probably stepped down to 300mm. Need to encourage sill interaction
Japan	300-350mm
OICA (A/P)	Stepped barrier similar to EEVC, 375- 255mm (see meeting notes of 6/2000)
OICA (N/A)	350mm, may be 380mm believe more representative of 2WD SUVs
Canada	400mm
Australia	350mm with a requirement for a "Blocker Beam" to be present in SUVs either by design or performance (load cell wall)

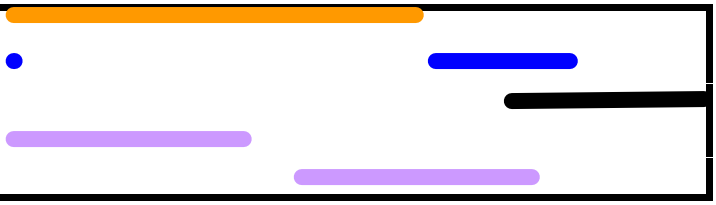
6. Homogeneity/ Stiffness

EEVC	Non-homogeneous need to look at stiffness distribution Have requested data from IHRA compatibility and frontal working groups.
Japan	Non-homogeneous considering to look only at passenger car or overall fleet for stiffness distribution
Canada	Non-homogeneous
US	homogenous maybe 45 psi honeycomb
Australia	Non-homogenous stiffness distribution of passenger cars but open to homogenous if proven to be representative
OICA (A/P)	Whatever simplifies test procedure
OICA (N/A)	Support non-homogenous but support IIHS but want to simplify test

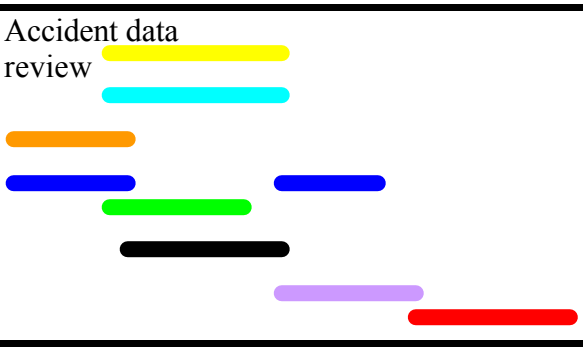
7. Timelines

Overall Timelines

	06/01	06/02	06/03	06/04	06/05

Research tasks Review of draft proposal Homogeneity/Stiffness WorldSID 50th pre-prod WorldSID 50th production	

Research Timelines

RESEARCH TASKS	06/01	06/02	06/03	06/04	06/05
Rear dummy (3) Perpendicular/ crabbed (5) Mass (1) Ground clearance (2) Geometry (4) Homogeneity/Stiffness (6) Review of draft proposal Final evaluation					

Attachment A

AMENDMENTS TO THE MINUTES FROM THE PREVIOUS MEETING

Mr Sakurai: Page5 last sentence – both crabbed and non-crabbed------either Eurosid or ES – 2
Should have been – 2 out of the 10 tests had only one dummy. Both crabbed and non-crabbed were evaluated. Eight tests used only struck side ES–2 dummies. 2 tests used struck and non-struck side dummies, either Eurosid or ES-2.

Mr Uchimura:

8.6: After 2nd para – The primary purpose of the testing was to evaluate ES2.

Change 1st para and 3rd para – The second peak in the pubic force response is significantly reduced although still present at the same timing.

Last para before 8.7 – add the sentence – JAMA recommends further analysis of existing data as a result of ES 2 testing.

Mr Kanianthra suggested some changes for the report to the IHRA steering committee. However, since the report had already been lodged, it will be necessary to replace it with the amended version.

1st para 5th sentence – This is the International Harmonised Research Activities (IHRA) under which committees of government delegates from around the world conduct their work.

Page 3 6th bullet

- The main contact points causing injury to front struck
- Elderly occupants with serious injuries or fatal injuries
- The stiffness ratio ---------- has a lesser effect

Mr Uchimura – Page 6 last para before "out of position" – needs an addition to the last outline??? Sentence.
"---350 mm diameter pole as proposed in the ISO test procedure.

Ms Tylko: - page 5 last para last sentence under "Ground Clearance" suggest replacing the word "redundant" with:

> "While the pole test is expected to ------ head protection, there needs to be a means of ensuring that a range of occupants are protected."

First section – change the word "keen" to "wish to see"

Ie some members wish to see.

Mr Sakurai: - Last page – 1st bullet point under Recommendations for Future ---- activities. Change "Section 4.1.1 to 4.1.8 to as above.